

Key Learning of this Unit: Variables

Scientists use variables in controlled experiments.

Unit Essential Question:

How do scientists design and use controlled experiments?

Instructional Tools:

Two coordinate graphs, concrete graphs, picture graphs, pendulum, FOSS planes, pennies, FOSS lifeboats,

Concept:

Controlled Experiments

Lesson EQ:

How are variables used in an experiment?
(used in all investigations)

Lesson EQ:

How are standards used in a controlled experiment?
(used in all investigations)

Lesson EQ:

Vocabulary:

Variables, standard, controlled experiment,

Concept:

Testing Variables

Lesson EQ:

What variables affect the number of cycles a pendulum swings?

Lesson EQ:

What variables affect the number of passengers a FOSS boat holds?

Lesson EQ:

What variables affect the flight of a FOSS plane?

Vocabulary:

System, cycle, pendulum, bob, capacity, displacement

Concept:

Graphing Results

Lesson EQ:

How do scientists use concrete, picture, and two-coordinate graphs to display data?

Lesson EQ:

How can a two-coordinate graph be used to make predictions and show relationships?
(used in all investigations)

Lesson EQ:

Vocabulary:

Independent & dependent variables, X-axis, Y-axis, picture graph, concrete graphs, two-coordinate graph